Flight-Testing Newton's Laws			
1998 Science			
Content Standards			
California Science			
Grades 9-12 (Physics)			
Activity/Lesson	**State**	**Standards**	
Session-10 (1-5)	CA	SCI.9-12.PH.1.b	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know that when forces are balanced, no acceleration occurs; thus an object continues to move at a constant speed or stays at rest (Newton's first law)
Session-10 (1-5)	CA	SCI.9-12.PH.1.c	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know how to apply the law F = ma to solve one-dimensional motion problems that involve constant forces (Newton's second law)
Session-10 (1-5)	CA	SCI.9-12.PH.1.d	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know that when one object exerts a force on a second object, the second object always exerts a force of equal magnitude and in the opposite direction (Newton's third law)
Session-10 (1-5)	CA	SCI.9-12.PH.1.j	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know how to resolve two-dimensional vectors into their components and calculate the magnitude and direction of a vector from its components
Session-10 (1-5)	CA	SCI.9-12.PH.1.l	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know how to solve problems in circular motion by using the formula for centripetal acceleration in the following form: $a = v^2/r$
Session-10 (1-5)	CA	SCI.9-12.PH.2.f	The laws of conservation of energy and momentum provide a way to predict and describe the movement of objects. As a basis for understanding this concept Students know an unbalanced force on an object produces a change in its momentum
Session-1 (1-17)	CA	SCI.9-12.PH.1.j	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know how to resolve two-dimensional vectors into their components and calculate the magnitude and direction of a vector from its components

Session-1 (1-17)	CA	SCI.9-12.PH.1.k	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know how to solve two-dimensional problems involving balanced forces (statics)
Session-1 (1-17)	CA	SCI.9-12.PH.1.l	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know how to solve problems in circular motion by using the formula for centripetal acceleration in the following form: $a = v^2/r$
Session-1 (1-17)	CA	SCI.9-12.PH.2.f	The laws of conservation of energy and momentum provide a way to predict and describe the movement of objects. As a basis for understanding this concept Students know an unbalanced force on an object produces a change in its momentum